

B¹ positions spaced from the insulation-displacement portions, said planar locks being aligned substantially normal to the respective side walls, said first and second locks being formed respectively with first and second edges defining portions of the first and second locks furthest from the respective first and second side walls, whereby a wire can be inserted into the wire-receiving space sufficiently for cutting a resin coating of the wire by projecting ends of the insulation-displacement portions and bringing a core of the wire into contact with the projecting ends of the insulation-displacement portions, and wherein the edges of the locks bite into at least the resin coating for resisting a pull out force on the wire.

REMARKS

Reconsideration of this application, as amended, is requested.

Claims 9 and 12-14 remain in the application. Claim 9 has been amended to incorporate the limitations that had been in dependent claim 10. Accordingly, dependent claim 10 has been cancelled. Dependent claim 11 defined an alternate to the embodiment of claim 10, and accordingly has been cancelled as being inconsistent with amended claim 9.

All of the claims were rejected under 35 USC 103(a) as being obvious over Hoppe considered in view of Endo et al. and McKee et al. The Examiner identified the structural elements of Hoppe that were considered to be substantially equivalent to elements recited in the claims. In this regard, the Examiner compared the elements 99 and 100 shown in FIG. 8 of Hoppe as being locks. The Examiner acknowledged, however, that the elements 99 and 100 are not planar. In an effort to address this admitted deficiency of Hoppe, the Examiner turned to McKee et al. In particular, the Examiner referred to the unnumbered elements at the extreme right end of FIG. 2 as being planar

locks. The Examiner then turned to the recitation in Endo et al. of a desire to resist pull-out forces on the wire. In view of this stated objective in Endo et al., the Examiner concluded that it would be obvious for a person skilled in the art to modify the Hoppe structure to provide planar locks as taught by McKee et al., presumably for the purpose of resisting pull-out forces on the wire.

As noted above, dependent claim 10 has been incorporated into claim 9. In this regard, the Examiner asserted that the "locks" in Hoppe are aligned substantially normal to the side walls.

The Examiner commented extensively on claim 11. However, claim 11 has been cancelled.

The Examiner offered specific comments regarding the relevancy of the alleged "locks" of Hoppe to each of dependent claims 12-14.

The Examiner then commented on counsel's arguments in the Amendment filed May 24, 2002. In particular, the Examiner noted that the previous remarks of counsel emphasize that neither Hoppe nor Endo et al. had planar locks. The Examiner then asserted that those arguments were refuted by the newly cited McKee et al. reference and its planar locks.

At this point, counsel and the Examiner agree that neither Hoppe nor Endo et al. teach planar locks. However, counsel respectfully disagrees with the Examiner's characterization of the elements 99 and 100 in Hoppe as "locks". Furthermore, counsel respectfully disagrees with the Examiner's conclusions regarding the relevancy of the unnumbered McKee et al. structures, the obviousness of combining the McKee et al. structures into Hoppe and the configuration of such a combination.

With respect to Hoppe, the Examiner will note that Hoppe refers to the elements 95 and 96 as detents (col. 4, last line). Hoppe also refers to the elements 99 and 100 as detents (col. 5, line 3) and indicates that the detents 99 and 100 are in the "form described above". The "form described above" is a V-shape (col. 4, lines 40-64; col. 5, line 1). The function for that V-shape is "for spreading the insulation 87 away from the conductor portion about to be inserted into the lower wiping section of the notch." (Col. 4, lines 58-61) Thus, the elements 99 and 100 of Hoppe presumably are intended to be structurally and functionally identical to the other V-shaped structures shown and described throughout the Hoppe disclosure. The slightly different shape shown for the detents 99 and 100 of Hoppe presumably is in view of the end position of the detents 99 and 100. In particular, the detents 96 and 97 of Hoppe are formed by stretching the side walls of the terminal fitting. However, there is not enough side wall to be stretched at the end of the terminal fitting. Thus, if Hoppe chooses or is required to make a short terminal fitting, the V-shaped detents must be formed in the manner illustrated in FIG. 8 of Hoppe.

The deficiencies of a V-shaped structure for resisting pull-out forces was considered at length in applicants previous Amendment. In particular, a longitudinal pulling force on the wire can readily cause the apex of the V-shaped detent to slide out of the wedge-shaped section of the insulation that has been cut by the V-shaped detent. The detents 99 and 100 of Hoppe's FIG. 8 would appear to be less resistant to pull-out forces because those curved blades are connected to the side wall at only one end. Thus, the curved detents 99 and 100 would be more likely to flex, flatten and slide out of the wedge-shaped section of insulation in response to pull-out forces. Furthermore, the entire teaching of Hoppe is to provide V-shape detents "for spreading the insulation 87 away

from the conductor portion about to be inserted into the lower wiping section of the notch." Hence, changing the shape of the Hoppe V-shape detents would be inconsistent with the teaching of Hoppe, and a person skilled in this technology would not be motivated to re-design the Hoppe terminal fitting in a manner that is inconsistent with the entire teaching of Hoppe.

Counsel understands the office action as relying on Endo et al. merely to teach the desirability of resisting pull-out forces. Counsel does not dispute this conclusion that those skilled in this art have known of the desirability of resisting pull-out forces. The issue, however, is not whether skilled artisans would like to resist pull-out forces. Rather, the issue is whether the prior art considered as a whole would suggest the claimed structure for achieving a high quality electrical connection and resisting pull-out forces. It is believed that the Examiner understood the deficiencies of Endo et al. in terms of teaching or suggesting the claimed structure. As a result, the Examiner was forced to turn to McKee et al. for allegedly teaching planar locks. McKee et al., of course, does not refer to the elements relied upon by the Examiner as locks, and counsel was unsure what function those structures might perform. As a result, counsel turned to the skilled artisans employed by the assignee of the subject invention for better understanding of these elements. Attached is an annotated copy of FIG. 2 of McKee et al.

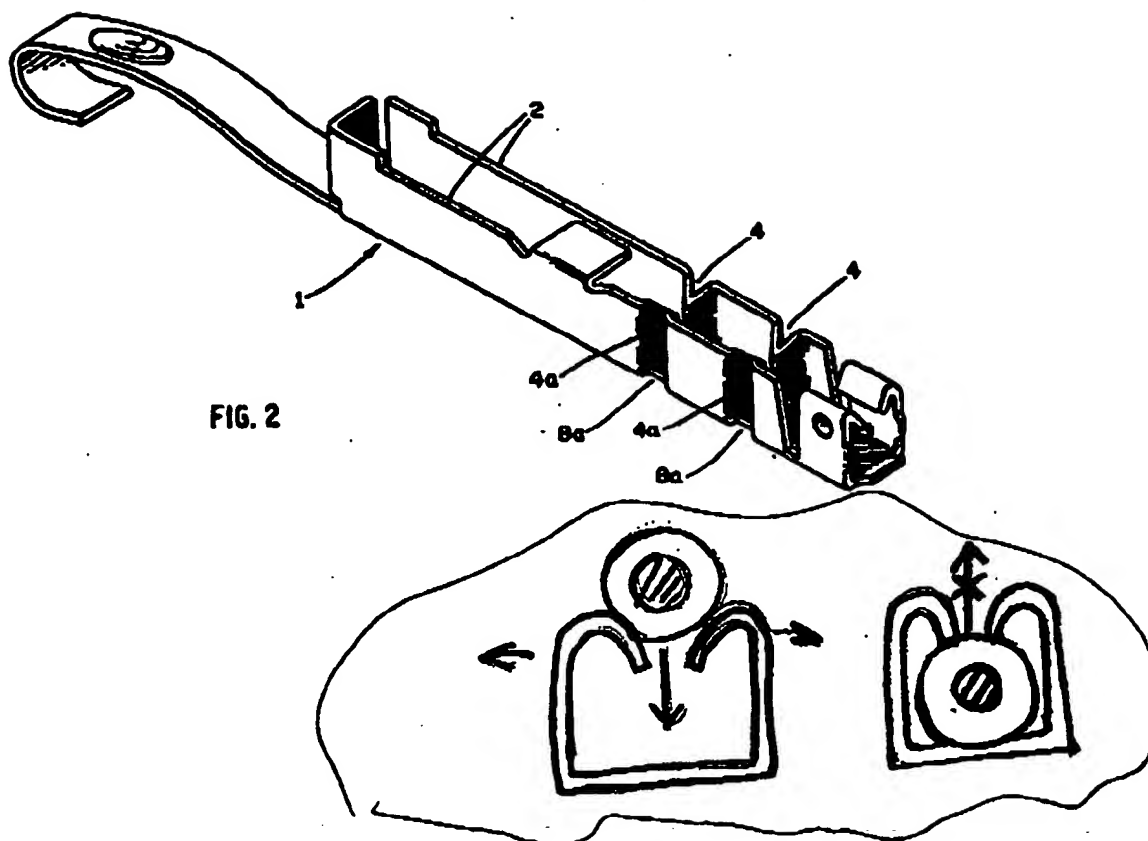
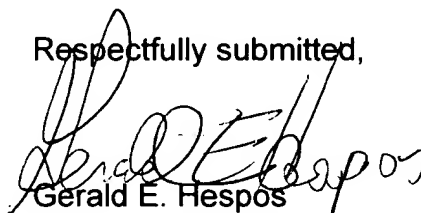


FIG. 2

The elements relied upon by the Examiner are finger-like traps that perform a function of retaining a wire in an insulation-displacement terminal and preventing the wire from moving up in a direction perpendicular to the axis of the wire. These retention fingers would have little if any function for preventing longitudinal pull-out. Hence, a person skilled in this art and familiar with Endo's stated rejection of resisting pull-out would not turn to the McKee et al. structure for resisting pull-out of the wire. Additionally, the McKee et al. retention fingers for retaining a wire in a slot are not substantially normal to the side walls as specified in amended claim 9. Furthermore, the unnumbered elements of McKee et al. would not perform their apparent function if they were revised significantly to be normal to the side walls.

In summary, there is nothing in the prior art to suggest combining McKee et al. with Hoppe. Furthermore, if such a combination were made, the McKee et al. retention fingers necessarily would have the shape and orientation almost identical to the shape and orientation shown in McKee et al. A re-design and reconfiguration of those retention fingers to make the retention fingers normal to the side wall would make those retention fingers unsuitable for their intended purpose. Accordingly, it is believed that the amended claims remaining in the application are not rendered obvious by Hoppe in view of Endo et al. and McKee et al. Rather, the amended claims are directed to patentable subject matter and allowance is solicited. The Examiner is urged to contact applicants attorney at the number below to expedite the prosecution of this application.

Respectfully submitted,



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"Version with markings to show changes made."

--9. (twice amended) An insulation-displacement terminal fitting, comprising: a base wall, first and second opposed side walls projecting from opposite sides of the base wall and defining a wire-receiving space between the side walls, first and second opposed V-shaped insulation-displacement portions projecting respectively from the first and second side walls into the wire-receiving space, first and second substantially planar locks projecting respectively from the first and second side walls into the wire-receiving space in positions spaced from the insulation-displacement portions, said planar locks being aligned [at] substantially [equal angles] normal to the respective side walls, said first and second locks being formed respectively with first and second edges defining portions of the first and second locks furthest from the respective first and second side walls, whereby a wire can be inserted into the wire-receiving space sufficiently for cutting a resin coating of the wire by projecting ends of the insulation-displacement portions and bringing a core of the wire into contact with the projecting ends of the insulation-displacement portions, and wherein the edges of the locks bite into at least the resin coating for resisting a pull out force on the wire.--